

IN THE CLAIMS

1. (Canceled)
2. (Currently Amended) The method of claim 6 [[1]], wherein estimating the at least one yield parameter further comprises estimating an overall yield parameter.
3. (Original) The method of claim 2, wherein estimating the overall yield parameter further comprises estimating a number of die lost.
4. (Original) The method of claim 2, wherein estimating the overall yield parameter further comprises estimating a percentage of die lost.
5. (Canceled)
6. (Currently Amended) A method, comprising:
receiving fault classification data associated with a tool fault condition, the tool fault condition being associated with a process tool for processing a wafer; and
estimating at least one yield parameter of the wafer based on the fault classification data,
wherein estimating the at least one yield parameter further comprises estimating a performance yield parameter, and The method of claim 5, wherein estimating the performance yield parameter further comprises estimating a speed yield parameter.

7. (Currently Amended) The method of claim 6 [[1]], wherein estimating the at least one yield parameter further comprises associating at least one estimated yield parameter with a fault class specified by the fault classification data.

8. (Previously Presented) The method of claim 7, further comprising:
determining an actual yield parameter for the wafer; and
updating the estimated yield parameter based on the actual yield parameter.

9. (Currently Amended) The method of claim 6 [[1]], further comprising removing the process tool associated with the tool fault condition from service responsive to the estimated yield parameter being outside a predetermined range.

10. (Currently Amended) The method of claim 6 [[1]], further comprising scrapping the wafer responsive to the estimated yield parameter being outside a predetermined range.

11. (Currently Amended) The method of claim 6 [[1]], further comprising:
determining process/step data associated with the tool fault condition; and
estimating at least one yield parameter based on the fault classification data and the process/step data.

12. (Original) The method of claim 11, further comprising estimating a plurality of yield parameters based on the fault classification data and the process/step data.

13. (Currently Amended) The method of claim 6 [[1]], further comprising estimating a plurality of yield parameters based on the fault classification data.

14. (Canceled)

15. (Currently Amended) The system of claim 19 [[14]], wherein the at least one yield parameter further comprises an overall yield parameter.

16. (Original) The system of claim 15, wherein the overall yield parameter further comprises an estimated number of die lost.

17. (Original) The system of claim 15, wherein the overall yield parameter further comprises an estimated percentage of die lost.

18. (Canceled)

19. (Currently Amended) A system, comprising:
a fault classification unit adapted to generate fault classification data associated with a
tool fault condition, the tool fault condition being associated with a process tool
for processing a wafer; and
a yield estimation unit adapted to estimate at least one yield parameter of the wafer based
on the fault classification data, wherein the at least one yield parameter further

~~comprises a performance yield parameter, and The system of claim 18, wherein~~
the performance yield parameter further comprises a speed yield parameter.

20. (Currently Amended) The system of claim 19 [[14]], further comprising a yield estimation database adapted to store data associating at least one estimated yield parameter with a fault class specified by the fault classification data, wherein the fault estimation unit is further adapted to access the fault classification database to estimate the at least one yield parameter.

21. (Previously Presented) The system of claim 20, wherein the yield estimation unit is further adapted to receive an actual yield parameter for the wafer and update the estimated yield parameter based on the actual yield parameter.

22. (Currently Amended) The system of claim 19 [[14]], wherein the yield estimation unit is further adapted to recommend removing the process tool associated with the tool fault condition from service responsive to the estimated yield parameter being outside a predetermined range.

23. (Currently Amended) The system of claim 19 [[14]], wherein the yield estimation unit is further adapted to recommend scrapping the wafer responsive to the estimated yield parameter being outside a predetermined range.

24. (Currently Amended) The system of claim 19 [[14]], wherein the yield estimation unit is further adapted to determine process/step data associated with the tool fault condition and

estimate at least one yield parameter based on the fault classification data and the process/step data.

25. (Original) The system of claim 24, wherein the yield estimation unit is further adapted to estimate a plurality of yield parameters based on the fault classification data and the process/step data.

26. (Currently Amended) The system of claim 19 [[14]], wherein the yield estimation unit is further adapted to estimate a plurality of yield parameters based on the fault classification data.

27. (Canceled)

28. (Previously Presented) A method, comprising:
receiving fault classification data associated with a fault condition; and
estimating at least one speed yield parameter based on the fault classification data.

29. (Previously Presented) A system, comprising:
a fault classification unit adapted to generate fault classification data associated with a fault condition; and
a yield estimation unit adapted to estimate at least one speed yield parameter based on the fault classification data.